

## CLAIMS

I/We claim:

- [c1]           1.       A method for transmitting packets, the method comprising:  
receiving a first packet;  
transmitting a portion of the received first packet;  
receiving a second packet;  
upon receiving the second packet,  
                stopping the transmitting of the first packet so that not all of the first  
                        packet has been transmitted;  
                transmitting a preempt indicator;  
                transmitting the second packet; and  
                upon completion of transmitting the second packet,  
                        transmitting a continue indicator; and  
                        transmitting the portion of the first packet that has not yet  
                        been transmitted.
- [c2]           2.       The method of claim 1 wherein the transmitted indicators are  
primitives.
- [c3]           3.       The method of claim 1 wherein the packets include in-band symbols  
and the indicators include one or more out-of-band symbols.
- [c4]           4.       The method of claim 3 wherein the in-band symbols are transition  
optimized and the out-of-band symbols are not transition optimized.
- [c5]           5.       The method of claim 1 wherein the first packet is a data packet and  
the second packet is a control packet.

- [c6] 6. The method of claim 1 wherein the first and second packets are transmitted through the same communications link.
- [c7] 7. The method of claim 1 wherein the transmitting of the second packet is preempted so that a third packet can be transmitted.
- [c8] 8. The method of claim 1 wherein the first packet includes a header that is transmitted only once.
- [c9] 9. A method for receiving packets, the method comprising:  
receiving a first portion of symbols of a first packet;  
receiving a preempt indicator indicating that a second packet of symbols is to be received;  
receiving the second packet of symbols;  
receiving a continue indicator indicating that a second portion of symbols of the first packet is to be received; and  
receiving the second portion of symbols of the first packet.
- [c10] 10. The method of claim 9 wherein the received indicators are primitives.
- [c11] 11. The method of claim 9 wherein the symbols of the packets include in-band symbols and the indicators include one or more out-of-band symbols.
- [c12] 12. The method of claim 11 wherein the in-band symbols are transition optimized and the out-of-band symbols are not transition optimized.
- [c13] 13. The method of claim 9 wherein the first packet is a data packet and the second packet is a control packet.

[c14] 14. The method of claim 9 wherein the first and second packets are received via the same communications link.

[c15] 15. The method of claim 9 wherein the receiving of the second packet is preempted so that a third packet can be received.

[c16] 16. The method of claim 9 wherein the first packet includes a header that is received only once.

[c17] 17. A method for transmitting packets via a communications link, the method comprising:

transmitting a first portion of a first packet;

transmitting a preempt indicator indicating that a second packet is to be transmitted;

transmitting the second packet;

transmitting a continue indicator indicating that a second portion of the first packet is to be transmitted; and

transmitting the second portion of the first packet

wherein the first and second packets and the preempt and continue indicators are transmitted via the same communications link.

[c18] 18. The method of claim 17 wherein the indicators are primitives.

[c19] 19. The method of claim 17 wherein the packets include in-band symbols and the indicators include one or more out-of-band symbols.

[c20] 20. The method of claim 19 wherein the in-band symbols are transition optimized and the out-of-band symbols are not transition optimized.

- [c21] 21. The method of claim 17 wherein the first packet is a data packet and the second packet is a control packet.
- [c22] 22. The method of claim 17 wherein the transmitting of the second packet is preempted so that a third packet can be transmitted.
- [c23] 23. The method of claim 17 wherein the first packet includes a header that is transmitted only once.
- [c24] 24. A communications device for transmitting packets via a communications link, comprising  
a transmission component that transmits a first packet; and  
a preemption component that signals the transmission component to stop transmitting the first packet, transmits a preempt indicator indicating that a second packet is to be transmitted, transmits the second packet, and signals the transmission component to continue transmitting the first packet.
- [c25] 25. The communications device of claim 24 wherein the indicators are primitives.
- [c26] 26. The communications device of claim 24 wherein packets include in-band symbols and the indicators include one or more out-of-band symbols.
- [c27] 27. The communications device of claim 26 wherein the in-band symbols are transition optimized and the out-of-band symbols are not transition optimized.
- [c28] 28. The communications device of claim 24 wherein the first packet is a data packet and the second packet is a control packet.

[c29] 29. The communications device of claim 24 wherein the transmitting of the second packet is preempted so that a third packet can be transmitted.

[c30] 30. The communications device of claim 24 wherein the first packet includes a header that is transmitted only once.

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